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CLINICAL AND RADIOLOGICAL EVALUATION OF THE PROBLEMS OCCURED DUE TO INAPPROPRIATE TREATMENT OF A PATIENT WITH ANTERIOR OPEN BITE: A MALPRACTICE CASE

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ABSTRACT

During practices in health care, patients could be seriously harmed by either conscious or unconscious wrong approaches of the clinicians. In this report, we discuss a malpractice case and the results of the malpractice on an adult female patient with anterior open bite.

A 23-year-old female patient was admitted to our hospital of faculty of dentistry complaint with anterior open bite and toothache. Patient history revealed that 2 years ago posterior teeth were shortened by a clinician without a prosthetic restoration until her anterior open bite disappeared. However not only the problem relapsed but also the shortened teeth needed root canal treatment which are also done by another clinician. Besides it has been learned that temporomandibular joint problems occur after these treatments. Thorough clinical and radiological examinations, it was decided that patient needs a multidisciplinary problems which must be solved together with departments of orthodontic, endodontics, restorative dentistry, prosthetic, oral and maxillofacial surgery and implantology. Indeed only an orthodontic and surgical treatment was generally enough to treat anterior open bite cases, as a result of malpractice this case get complicated which needs very complex treatments.

The treatment method performed by the clinician for treatment of anterior open bite, both ignored the morphological, functional, ethological facts of orthodontic treatments for such patients and also led to dental pain, damage and loss of function. This kind of an approach does not correspond with any ethical, scientific, or esthetical criteria.

Keywords:*Malpractice, Anterior Open Bite, Orthodontic Treatment, Unappropriate treatment*

ÖZET

Sağlıkla ilgili uygulamalarda hekimin bilinçli ya da bilinçsiz kusurlu yaklaşımları neticesinde hastalar ciddi şekilde zarar görebilmektedir. Bu olgu sunumunda bir ön açık kapanış vakasında diş hekimi tarafından yapılmış hatalı uygulamadan ve hastada neden olduğu sorunlardan bahsedilecektir.

23 yaşındaki kadın hasta, ön açık kapanış ve diş ağrısı şikayetiyle fakülte hastanemize başvurmuştur. Hastanın anamnezinden, 2 yıl önce ön açık kapanış şikayetiyle gittiği pratisyen diş hekimi tarafından posterior dişlerinin ön dişlerdeki açıklık kapanana kadar, herhangi bir protetik restorasyon yapılmaksızın vertikal yönde kısaltıldığı fakat zamanla bu açıklığın yeniden oluştuğu öğrenilmiştir. Ayrıca hasta, kron boyu kısaltılan dişlerinde ağrı oluştuğunu ve farklı bir hekim tarafından posterior dişlerine kanal tedavileri uygulandığını belirtmiştir. Hastanın temporomandibular eklem yönünden de yapılan tedaviler sonrası problemlerinin oluştuğu öğrenilmiştir. Hastanın yapılan klinik ve radyolojik tetkikleri sonrası hastaya ortodonti, endodonti, restoratif diş tedavisi, protez, ağız, diş çene cerrahisi ve implantoloji bölümlerinin müdahalesini gerektiren kapsamlı bir tedavi planı oluşturulmuştur. Normal şartlarda yalnızca ortodonti ve ağız, diş çene cerrahisi bölümlerinin yaklaşımlarıyla tedavi edilebilecek durumdaki hasta, uygulanan yanlış tedaviler sonrası oldukça karmaşık bir hal almıştır.

Hastanın ön açık kapanışının tedavisi için hekiminin tercih ettiği yöntem bu tip vakaların ortodontik tedavisinde göz önüne alınması gereken morfolojik, fonksiyonel, etiyolojik faktörler ve stabiliteyi göz ardı etmekle birlikte hastada dental ağrı, hasar ve fonksiyon kaybına yol açmıştır. Bu yaklaşım hiçbir şekilde diş hekimliğinin etik, bilimsel ve estetik kriterlerine uymamaktadır.

Anahtar Kelimeler: *Malpraktis, Ön Açık Kapanış, Ortodontik Tedavi, Hekim hatası, Yanlış tedavi*

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INTRODUCTION

Medical malpractice can be defined as the failure of a clinician to exercise the degree of care and skill that a physician or surgeon of the same medical specialty would use under similar circumstances[1]. In our country, with the establishment of laws in recent years, favoring the protection of patient rights, this term has gained further importance and thus more legal regulations are getting into effect[2]. In a survey conducted by Kandemir[3], restorative dentistry was found to be the most common area where malpractice occurred (64%), followed by maxillofacial surgery (18%), prosthetic treatments (14%) and orthodontic treatments (3%). In this case report, we present a case with anterior open bite in which clinical malpractice was performed by a dentist.

CASE REPORT

A 23-year-old female patient was admitted to our faculty of dentistry hospital with the complaint of toothache and anterior open bite. Patient history revealed that the patient was admitted to a private dentistry clinic 2 years ago with the complaint of malocclusion, which constituted an aesthetical problem for the patient and caused difficulty biting. The clinician shortened the height of the crowns of the posterior teeth both in the maxilla and mandibula until their average height were 1-2 mm. However, not only the anterior open bite relapsed over time but also the posterior teeth had sensitivity and had positive percussion findings.

In the intraoral examination, the right upper canine and the first left upper molar teeth were not present, the right upper first molar and the left upper second molar teeth had amalgam filling, and temporary restorations were observed in the left lower second premolar, the left lower first molar, the right lower first premolar, and the right lower second molar teeth. Angle type II molar relationship and posterior cross closure was seen on the right side and an anterior open bite of 5 mm was present (Fig. 1).

Figure 1. Intraoral images (A: Frontal, B: Right side, C: Left Side, D: Mandible, E: Maxilla)

The lower middle line was deviated to the right side for 2.5 mm although it was slightly corrected at maximum opening. The patient felt pain when she opened her mouth in the bilateral condylar area.

Radiological evaluation of the patient was performed with panoramic, lateral, cephalometric, and anteroposterior radiograms. In the panoramic radiogram, the right upper canine tooth was found to be embedded and to be in the vertical position. It was learned that the root treatment for the vertically shortened right lower first molar, left lower second premolar, left lower first and second molars, and right upper second molar was performed by another clinician. The right lower second molar was extirpated and the root treatment could not be performed.

Consultation from the orthodontics department was sought. In the orthodontic

examination, asymmetrical facial presentation was observed. The inferior tip of the jaw was deviated to the right. Occlusal cant was seen in the maxilla. The patient had a convex profile. The patient could not close her lips when the teeth were in occlusion, in the free position without muscular hyperactivity (Fig. 2).

Figure 2. Extraoral images

No pathological finding was observed in the maxillary sinuses. Asymmetry was seen between the right and left mandibulocondylar areas. While the right mandibulocondyle was in normal relationship with the glenoid fossa, the left mandibulocondyle was displaced to the inferior side. In the lateral cephalometric radiogram, a skeletal relationship of class II was found and the angle was discovered to be vertically high. Skeletal stricture was seen in the maxilla in anteroposterior radiogram and the tip of the mandibular jaw was deviated to the right (Fig. 3).

Figure 3. Orthopantomography and Cephalometric images

Magnetic resonance imaging (MRI) was utilized for better evaluation of the temporomandibular joint (TMJ). Anterior displacement without reduction in the right TMJ disc and subluxation of the right condyle and osteophytosis was observed. When the mouth tried to move to the open position, the condyle could only move a little forward. Anterior displacement of the left TMJ disc without complete reduction, subluxation of the condyle, and slight osteophytosis were observed When the mouth tried to get into the open position, the condyle could only move to the lower posterior part of the temporal eminence (Fig. 4).

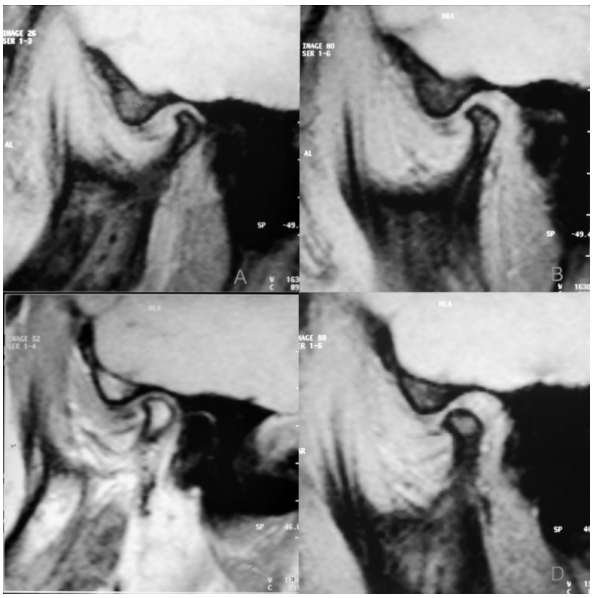

Figure 4. MRI of TMJ (A: Right - Open B: Right - Close C: Left - Closed D: Left - Open)

The patient was consulted with the Ear, Nose, and Throat (ENT) department for through evaluation of the skeletal and dental etiology of the open bite in terms of nasopharyngeal airway. In the clinical and radiological examination, hypertrophy in the right and left lower concae, and right septum deviation were detected. Medical treatment of the hypertrophy of the concae was followed by surgical treatment of the septum deviation.

Current and/or future pathologies of the patient were evaluated in a multidisciplinary approach and the treatment plan was constructed accordingly. Symptomatic splint was prepared for the TMJ symptoms of the patients and the follow-up period was planned. Therapeutic position was decided to ensure the adaptation of the occlusion orthodontically and decompensation before orthognathic surgery. With the utilization of orthognathic surgery (Lefort 1 and/or bilateral sagittal split osteotomy), the skeletal and dental relationships of TMJ were planned to be healed to the maximum level. The patient was informed about the treatment plan; however, the patient refused the treatment plan and was lost to follow-up.

DISCUSSION

Malocclusion of the anterior open bite may result from various etiologies caused by craniofacial, dentoalveolar, and soft tissue pathologies. The patients with this type of malocclusion constitute the most difficult cases for orthodontists[4]. Common characteristics seen in patients with skeletal open bite include posteriorly rotated mandibula[5], increase in the vertical growth of posterior dentoalveolar structures[6, 7], shortness in the height of the posterior aspect of the face[8], posterior rotation of the palatal plate[9], increase in the height of anterior aspect of the face[10], wideness in the distance between upper and lower lips[10].

The etiology of anterior open bite cases is not apparent, but they are considered to be multifactorial[10]. The changes in the structure of the muscles of mastication and the resting length of the tongue and its location are among these etiological factors. In these patients, the tongue rests between the upper and lower incisors during swallowing. Thumb licking and abnormal pressure habits in the tongue and lips, airway obstructions, and genetic skeletal developmental abnormalities may cause vertical malocclusion. The cornerstone of orthodontic treatment is the presence of normal, permanent, appropriate teeth and surrounding tissue structure. Precise establishment of the etiology of open bite increases the chance of successful treatment[5].

In these types of cases, early diagnosis and avoidance of harmful behavior with the help of growth may lead to healing without utilization of any treatment. In older cases, if the growth

is continuing, functional apparels including bite-block and bionator or orthopedic devices such as vertical jaw split could be used in treatment. In cases where the growth is completed, the treatment is planned based on the severity of the anomaly. Treatment options include a mask with fixed mechanics or orthognathic surgery[5].

In the case presented in this study, denial of the sagittal, vertical and transverse problems and the treatment concepts by the dentist and the vertical shortening of the posterior teeth did not help the treatment of the patient. This approach also led to significant loss in the height of the crown of the teeth, resulting in TMJ damage. The approach used by the dentist did not follow any of the ethical, scientific, or aesthetic criteria of dentistry. It also ignored the basic morphological, functional, and etiological and stability principles of basic orthodontics.

CONCLUSIONS

The primary target of a dentist must be to preserve the tissues and organs of the patient and to preserve the enamel to aid the general wellbeing and aesthetic concerns of the patient. Prior to the treatment, all therapeutic methods must be evaluated through a wide perspective. When necessary, an interdisciplinary approach should be utilized, and the dentist should not only satisfy the aesthetic concerns of the patient but also consider the occlusive and functional aspects. Otherwise, as seen in the case presented, the interventions may harm the patient and the physician as well. Although there are legal regulations protecting the rights of the patients, the physician is responsible for protecting the body of the patient.

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